```
MM      MM  TTTTTTTTT  HH      HH  SSSSSSSS  IIIIII     GGGGGGG  NN      NN
MM      MM  TTTTTTTTT  HH      HH  SSSSSSSS  IIIIII     GGGGGGG  NN      NN
MMMM  MMMM      TT     HH      HH  SS           II      GG       NN      NN
MMMM  MMMM      TT     HH      HH  SS           II      GG       NN      NN
MM  MM  MM      TT     HH      HH  SS           II      GG       NNNN    NN
MM  MM  MM      TT     HH      HH  SS           II      GG       NNNN    NN
MM      MM      TT     HHHHHHHHHH     SSSSSS    II      GG       NN  NN  NN
MM      MM      TT     HHHHHHHHHH     SSSSSS    II      GG       NN  NN  NN
MM      MM      TT     HH      HH        SS     II      GG  GGGGG  NN    NNNN
MM      MM      TT     HH      HH        SS     II      GG  GGGGG  NN    NNNN
MM      MM      TT     HH      HH        SS     II      GG     GG  NN      NN
MM      MM      TT     HH      HH        SS     II      GG     GG  NN      NN
MM      MM      TT     HH      HH  SSSSSSSS  IIIIII     GGGGGG  NN      NN
MM      MM      TT     HH      HH  SSSSSSSS  IIIIII     GGGGGG  NN      NN


LL              IIIIII      SSSSSSSS
LL              IIIIII      SSSSSSSS
LL                II        SS
LL                II        SS
LL                II        SS
LL                II        SS
LL                II           SSSSSS
LL                II           SSSSSS
LL                II              SS
LL                II              SS
LL                II              SS
LL                II              SS
LLLLLLLLLL    IIIIII      SSSSSSSS
LLLLLLLLLL    IIIIII      SSSSSSSS
```

MTH$SIGN
1-002

C 10

SIGN function

16-SEP-1984 01:48:50   VAX/VMS Macro V04-00   Page 1
6-SEP-1984 11:26:54   [MTHRTL.SRC]MTHSIGN.MAR;1   (1)

```
0000     1          .TITLE  MTH$SIGN        SIGN function
0000     2          .IDENT  /1-002/         ; File: MTHSIGN.MAR
0000     3
0000     4
0000     5  ;*********************************************************************
0000     6  ;*                                                                  *
0000     7  ;*  COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                         *
0000     8  ;*  DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.          *
0000     9  ;*  ALL RIGHTS RESERVED.                                           *
0000    10  ;*                                                                  *
0000    11  ;*  THIS SOFTWARE IS FURNISHED UNDER A LICENSE AND MAY BE USED AND COPIED  *
0000    12  ;*  ONLY IN  ACCORDANCE WITH  THE  TERMS  OF  SUCH  LICENSE  AND WITH THE  *
0000    13  ;*  INCLUSION OF THE ABOVE COPYRIGHT NOTICE. THIS SOFTWARE OR  ANY  OTHER  *
0000    14  ;*  COPIES THEREOF MAY NOT BE PROVIDED OR OTHERWISE MADE AVAILABLE TO ANY  *
0000    15  ;*  OTHER PERSON.  NO TITLE TO AND OWNERSHIP OF  THE  SOFTWARE IS  HEREBY  *
0000    16  ;*  TRANSFERRED.                                                    *
0000    17  ;*                                                                  *
0000    18  ;*  THE INFORMATION IN THIS SOFTWARE IS  SUBJECT TO CHANGE WITHOUT NOTICE  *
0000    19  ;*  AND  SHOULD  NOT  BE  CONSTRUED AS  A COMMITMENT BY DIGITAL EQUIPMENT  *
0000    20  ;*  CORPORATION.                                                    *
0000    21  ;*                                                                  *
0000    22  ;*  DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE  OR  RELIABILITY OF ITS  *
0000    23  ;*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.         *
0000    24  ;*                                                                  *
0000    25  ;*                                                                  *
0000    26  ;*********************************************************************
0000    27
0000    28
0000    29  ; FACILITY: MATH LIBRARY
0000    30  ;++
0000    31  ; ABSTRACT:
0000    32  ;       This module contains routine MTH$SIGN
0000    33
0000    34  ;--
0000    35
0000    36
0000    37  ; VERSION: 0
0000    38
0000    39  ; HISTORY:
0000    40
0000    41  ; AUTHOR:
0000    42  ;       Jonathan M. Taylor, 14-JUL-77: Version 0
0000    43
0000    44  ; MODIFIED BY:
0000    45  ;
0000    46  ;
0000    47  ;
```

MTH$SIGN
1-002

D 10

SIGN function   16-SEP-1984 01:48:50   VAX/VMS Macro V04-00   Page 2
HISTORY ; Detailed Current Edit History 6-SEP-1984 11:26:54   [MTHRTL.SRC]MTHSIGN.MAR;1   (2)

```
0000    49              .SBTTL  HISTORY              ; Detailed Current Edit History
0000    50
0000    51
0000    52 ; Edit History for Version 0 of MTH$SIGN
0000    53 ;
0000    54 ; 0-3   - Remove MTH$FLAG_JACKET.  TNH 5-July-78
0000    55 ; 1-001 - Update version number and copyright notice.  JBS 16-NOV-78
0000    56 ; 1-002 - Add "_" to the PSECT directive.  JBS 22-DEC-78
```

MTH$SIGN
1-002

E 10

SIGN function
DECLARATIONS

16-SEP-1984 01:48:50   VAX/VMS Macro V04-00   Page 3
 6-SEP-1984 11:26:54   [MTHRTL.SRC]MTHSIGN.MAR;1   (3)

```
        0000      58              .SBTTL  DECLARATIONS
        0000      59
        0000      60  ;
        0000      61  ; INCLUDE FILES:
        0000      62  ;     oerr.mar
        0000      63  ;
        0000      64
        0000      65  ;
        0000      66  ; EXTERNAL SYMBOLS:
        0000      67  ;     NONE
        0000      68  ;
        0000      69
        0000      70
        0000      71  ; MACROS:
        0000      72  ;     NONE
        0000      73  ;
        0000      74
        0000      75  ;
        0000      76  ; PSECT DECLARATIONS:
    00000000      77          .PSECT  _MTH$CODE        PIC, SHR, LONG, EXE, NOWRT
        0000      78
        0000      79  ;
        0000      80  ; EQUATED SYMBOLS:
        0000      81  ;     NONE
        0000      82  ;
        0000      83
        0000      84  ;
        0000      85  ; OWN STORAGE:
        0000      86  ;     NONE
        0000      87  ;
```

```
                          0000      89                    .SBTTL  MTH$SIGN
                          0000      90
                          0000      91   ;++
                          0000      92   ; FUNCTIONAL DESCRIPTION:
                          0000      93   ;      Return arg1 with sign of arg2.
                          0000      94   ;
                          0000      95   ;
                          0000      96   ; CALLING SEQUENCE:
                          0000      97   ;      Transfer_of_sign.wf.v = MTH$SIGN (arg1.rf.r, arg2.rf.r)
                          0000      98   ;
                          0000      99   ;
                          0000     100   ;
                          0000     101   ; INPUT PARAMETERS:
                          0000     102   ;      The two parameters are single-precision floating-point values
                          0000     103   ;      and are call-by-reference.
                          0000     104   ;
                          0000     105   ;
                          0000     106   ; IMPLICIT INPUTS:
                          0000     107   ;      NONE
                          0000     108   ;
                          0000     109   ; OUTPUT PARAMETERS:
                          0000     110   ;      NONE
                          0000     111   ;
                          0000     112   ; IMPLICIT OUTPUTS:
                          0000     113   ;      NONE
                          0000     114   ;
                          0000     115   ; COMPLETION CODES:
                          0000     116   ;      NONE
                          0000     117   ;
                          0000     118   ; SIDE EFFECTS:
                          0000     119   ;      Reserved Operand exception can occur.
                          0000     120   ;
                          0000     121   ;
                          0000     122   ;--
                          0000     123
                0000      0000     124                    .ENTRY  MTH$SIGN,       ^M<>
                          0002     125
   50    04 BC    50      0002     126                    MOVF    a4(AP), R0      ; R0 = arg1
          09       19     0006     127                    BLSS    NEGARG          ; branch if negative arg1
                          0008     128
                          0008     129   ; arg1 is non-negative, check sign of arg2
                          0008     130   ;
          08 BC    53     0008     131                    TSTF    a8(AP)
          03       18     0008     132                    BGEQ    EXIT            ; both args positive, nothing to do
                          000D     133   NEGATE:
   50    50      52       000D     134                    MNEGF   R0, R0          ; negate arg1
                          0010     135   EXIT:
                   04     0010     136                    RET
                          0011     137
                          0011     138   ; arg1 is negative, check sign of arg2
                          0011     139   ;
                          0011     140   NEGARG:
          08 BC    53     0011     141                    TSTF    a8(AP)
          F7       18     0014     142                    BGEQ    NEGATE          ; arg2 positive negate arg1
                   04     0016     143                    RET
                          0017     144
                          0017     145
```

MTH$SIGN
1-002

SIGN function
MTH$SIGN

G 10

16-SEP-1984 01:48:50   VAX/VMS Macro V04-00   Page 5
6-SEP-1984 11:26:54   [MTHRTL.SRC]MTHSIGN.MAR;1   (4)

```
0017  146          .END
```

```
EXIT            00000010 R    01
MTH$SIGN        00000000 RG   01
NEGARG          00000011 R    01
NEGATE          0000000D R    01
```

+-------------------+
! Psect synopsis !
+-------------------+

PSECT name	Allocation	PSECT No.	Attributes								
. ABS .	00000000 (0.)	00 (0.)	NOPIC	USR	CON	ABS	LCL	NOSHR	NOEXE	NORD	NOWRT NOVEC BYTE
_MTH$CODE	00000017 (23.)	01 (1.)	PIC	USR	CON	REL	LCL	SHR	EXE	RD	NOWRT NOVEC LONG

+-----------------------------+
! Performance indicators !
+-----------------------------+

Phase	Page faults	CPU Time	Elapsed Time
Initialization	30	00:00:00.08	00:00:00.85
Command processing	112	00:00:00.54	00:00:04.19
Pass 1	67	00:00:00.44	00:00:02.12
Symbol table sort	0	00:00:00.00	00:00:00.00
Pass 2	42	00:00:00.35	00:00:01.47
Symbol table output	2	00:00:00.01	00:00:00.07
Psect synopsis output	2	00:00:00.02	00:00:00.02
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	257	00:00:01.44	00:00:08.72

The working set limit was 750 pages.
1414 bytes (3 pages) of virtual memory were used to buffer the intermediate code.
There were 10 pages of symbol table space allocated to hold 4 non-local and 0 local symbols.
146 source lines were read in Pass 1, producing 10 object records in Pass 2.
0 pages of virtual memory were used to define 0 macros.

+-----------------------------+
! Macro library statistics !
+-----------------------------+

Macro library name	Macros defined
_255DUA28:[SYSLIB]STARLET.MLB;2	0

0 GETS were required to define 0 macros.

There were no errors, warnings or information messages.

MACRO/ENABLE=SUPPRESSION/DISABLE=(GLOBAL,TRACEBACK)/LIS=LIS$:MTHSIGN/OBJ=OBJ$:MTHSIGN MSRC$:MTHSIGN/UPDATE=(ENH$:MTHSIGN)

MTHJMIN0
LIS

MTHMSG
LIS

MTHIMIN0
LIS

MTHMAX1
LIS

MTHJIDNNT
LIS

MTHMSGDEF
LIS

MTHJIHNNT
LIS

MTHSGN
LIS

MTHJMAX0
LIS

MTHMOD
LIS

MTHSQRTR2
LIS

MTHSIGNAL
LIS

MTHJNINT
LIS

MTHSINCOS
LIS

MTHSQRT
LIS

MTHININT
LIS

MTHRANDOM
LIS

MTHJIGNNT
LIS

MTHMINI
LIS

MTHJISIGN
LIS

MTHSIGN
LIS

MTHSINH
LIS